TECHNICAL BASIS FOR TIER I OPERATING PERMIT

DATE: November 5, 2002

PERMIT WRITER: Zach Klotovich

PERMIT COORDINATOR: Bill Rogers

SUBJECT: AIRS Facility No 029-00001, P_4 Production, Soda Springs
Final Tier I Operating Permit

Permittee:	P_4 Production, LLC
Permit Number:	029-00001
Standard Industrial Classification:	2819
Description:	Manufacture of elemental phosphorus using electric arc furnaces
Kind of Products:	Elemental phosphorus
Responsible Official:	Bruce Pallante, Plant Manager
Person to Contact:	Beth Elroy, Senior Environmental Engineer
Telephone Number:	(208) 547-4300 ext. 418
Mailing Address	P.O. Box 816 Soda Springs, Idaho 83276
Facility Classification:	A
County:	Caribou
Air Quality Control Region:	61
Zone	12
UTM Coordinates (km):	452.0 , 4726.0
Exact Plant Location:	2 miles North of Soda Springs, Idaho, on Highway 34

Table of Contents

Acronyms, Units and Chemical Nomenclature

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AP-42	Compilation of Air Pollutant Emission Factors
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CaSi	calcium silicate
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Idaho Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
ESP	electrostatic precipitator
FeP	ferrophosphorus
gpm	gallons per minute
gr	*grain* (1 lb = 7,000 grains)
HAPs	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O_3	*ozone*
Phos	phosphorus
P_2O_5	phosphorus pentoxide
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter of a nominal 10 micrometers or less (µm)
PSD	prevention of significant deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic foot
SDM	separator discharge material
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	*sulfur dioxide*
THFC	Tap Hole Fume Collector
T/hr	ton per hour
T/yr	tons Per year
UFS	under flow solids
VOC	volatile organic compound

PUBLIC COMMENT / AFFECTED STATES / EPA REVIEW SUMMARY

A 30-day public comment period for the P_4 Production draft Tier I operating permit was held from April 18 through May 20, 2002, in accordance with IDAPA 58.01.01.364 (*Rules for the Control of Air Pollution in Idaho*).

IDAPA 58.01.01.008.01, defines *affected states* as: *"All states: whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or that are within fifty (50) miles of the Tier I source."*

A review of the site location information included in the permit application indicates that the facility is located with 50 miles of a state border. Therefore, the states of Utah and Wyoming were provided an opportunity to comment on the draft Tier I operating permit. Affected states received a copy of the public comment package as required by IDAPA 58.01.01.364.02, and were provided the opportunity to comment on the draft Tier I operating permit as provided by 40 CFR 70.

Summary of Comments

No comments were received during the public comment period.

A hearing was not requested.

Comments were received from the facility on May 24, 2002, after the comment period. Responses to the facility comments are provided in Appendix C of this memorandum.

Proposed Permit

A proposed permit was developed after the public comment period. Even though P4 failed to provide timely comments, the DEQ revised the permit in response to all relevant comments. The proposed permit was then forwarded to the EPA for their review as required by IDAPA 58.01.01.366. The EPA provided no written objection to the permit.

1. PURPOSE

The purpose of this memorandum is to establish the legal and factual basis for this proposed Tier I Operating Permit in accordance with IDAPA 58.01.01.362, *Rules for the Control of Air Pollution in Idaho.*

Department of Environmental Quality (DEQ) staff have reviewed the information provided by P_4 Production, LLC, (P_4 Production) regarding the operation of their facility in Soda Springs, Idaho. This information was submitted based on the requirements of the Tier I operating permit in accordance with IDAPA 58.01.01.300.

Based on the information submitted, DEQ has drafted a Tier I operating permit for P_4 Production's, Soda Springs facility. The draft permit was submitted for public comment and a proposed permit was developed and forwarded to the Environmental Protection Agency (EPA) for their review in accordance with IDAPA 58.01.01.366.

2. SUMMARY OF EVENTS

On August 8, 1995, DEQ received a Tier I operating permit application from P_4 Production for its Soda Springs facility. The application was determined to be administratively complete on October 5, 1995. DEQ received an update to the application on October 16, 1998. On October 21, 1998, the update was declared incomplete due to certification issues. On October 30, 1998, DEQ received additional updated materials, and on December 30, 1998, the update was declared complete. On April 12, 2001, DEQ requested P_4 submit additional information to update the Tier I application. On June 7, 2001, DEQ received the requested information. On December 4, 2001, the draft permit and technical memorandum were sent to P_4 for a 20-day facility review. DEQ received comments back from P_4 on January 11, 2002. DEQ discussed the comments with P_4 via telephone on February 1 and 4, 2002. A 30-day public comment period for the P_4 Production draft Tier I operating permit was held from April 18 through May 20, 2002. No comments were received during the comment period. DEQ received comments from P_4 on May 24, 2002. A proposed permit was developed after the public comment period. Even though P4 failed to provide timely comments, the DEQ revised the permit in response to all relevant comments. The proposed permit was then forwarded to the EPA for their review as required by IDAPA 58.01.01.366. The EPA provided no written objection to the permit.

3. BASIS OF THE ANALYSIS

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- Tier I Air Operating Permit Application, (August 8, 1995 and October 16, 1998; P_4 Production, LLC; Soda Springs, Idaho)
- Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, EPA
- 40 CFR Part 70
- Guidance developed by the EPA and DEQ
- Title V permits issued by other jurisdictions
- Documents and procedures developed in the Title V Pilot operating permit program

4. REGULATORY ANALYSIS – GENERAL FACILITY

4.1 Facility Description

4.1.1 General Process Description

The P_4 Production facility located in Soda Springs, Idaho, produces elemental phosphorus as the primary product, with calcium silicate slag, ferrophosphorus slag, precipitator dust, and carbon monoxide as the primary byproducts. The process involves feeding ore to a rotary kiln (calciner) to form heat-hardened nodules, reducing the nodules in one of three electric furnaces, and collecting the elemental phosphorus from the furnace off-gases. The facility uses coke, quartzite (silica), and phosphate ore as raw materials.

Phosphate ore is mined at a nearby mine and delivered to the plant by truck carrier over a private, paved haul road. The ore blends are hauled to the plant throughout the spring, summer, and fall months and are stockpiled separately using a track-mounted ore stacker.

Quartzite is obtained from a nearby quarry owned by P_4 Production. It is hauled to the plant in trucks and is stockpiled using a radial stacker. The quarry generally operates from May through October.

The process is divided into two primary operating divisions: the Burden Preparation Department and the Furnace Department. The Burden Preparation Department encompasses all actives associated with handling and beneficiating raw materials (coke, quartzite, and phosphate ore) to produce a suitable burden feed for furnace operations. The Furnace Department controls the actual production and recovery of phosphorus. The Furnace Department also recovers carbon monoxide (CO) for use as a fuel in the nodulizing kiln and is responsible for the phos dock area that loads liquid phosphorus into rail cars and "ISO" tanks for shipment. The Furnace Department also controls the removal of ferrophosphorus and calcium silicate slags from the furnaces.

4.1.2 Facility Classification

This facility is an elemental phosphorus manufacturer, Standard Industrial Classification (SIC) 2819. The facility is classified as a major facility, in accordance with IDAPA 58.01.01.008.10, for Tier I permitting purposes because the facility has the potential to emit (PTE) CO, PM_{10}, NO_x, and SO_2 at levels greater than 100 tons per year. The AIRS Facility Subsystem (AFS) classification is A. The facility is also major as defined in IDAPA 58.01.01.006.55; and is subject to Prevention of Significant Deterioration (PSD) permitting requirements because the facility's PTE is above 100 tons per year (T/yr). The facility is a designated facility as defined in IDAPA 58.01.01.006.27 (phosphate rock-processing plant), however, the facility is not subject to 40 CFR 60 Subpart NN (See 4.3.3).

4.1.3 Area Classification

P_4 Production is located in Soda Springs, Idaho, which is in Caribou County. Caribou County is designated as attainment or unclassifiable for all criteria pollutants. P_4 Production is located in Air Quality Control Region 61 and Universal Transverse Mercator Zone 12.

4.1.4 Permitting History

July 18, 1979 — Monsanto was issued operating permit No. 13-0420-0001-00 for:

- natural gas-fired boiler
- phosphate ore-nodulizing kiln and cooler
- crushing and screening with emissions controlled by a venturi scrubber
- coke and quartzite handling and storage with emissions controlled by four baghouses
- coke dryer and quartz dryer with emissions controlled by a scrubber
- proportioning of phosphate ore

- coke and quartzite and stocking area over furnaces
- scale room transfer points controlled by a scrubber
- No. 7 electric arc furnace with emissions from the furnace tapping operations controlled by a scrubber
- No. 8 electric arc furnace with emissions from the furnace tapping operations controlled by a scrubber
- No. 9 electric arc furnace with emissions from the furnace tapping operations controlled by a scrubber

August 13, 1981 — Part IV of the operating permit issued July 18, 1979, was amended to give Monsanto a compliance extension for installation of dust control equipment on its stocking system.

November 7, 1985 — A permit to construct was issued to Monsanto for the coke fines electric furnace addition system.

November 19, 1985 — Monsanto was issued the following modified pages of operating permit No. 420-0001 for a pot tapping emission reduction credit:

Page 8 of 15, No. 7 electric arc furnace, slag tapping to pots, pot hauling, pot dumping to the slag pile and ESP dust oxidation; with emissions from the tapping and ESP dust oxidation controlled by a venturi scrubber;

Page 9 of 15, No. 8 electric arc furnace, slag tapping to pots, pot hauling, pot dumping to the slag pile and ESP dust oxidation; with emissions from the tapping and ESP dust oxidation controlled by a venturi scrubber;

Page 10 of 15, No. 9 electric arc furnace, slag tapping to pots, pot hauling, pot dumping to the slag pile and ESP dust oxidation; with emissions from the tapping and ESP dust oxidation controlled by a venturi scrubber; and

Page 10a of 15, *fugitive emissions from slag piles and plant property and* roads.

November 25, 1985 — DEQ issued Monsanto a certificate for banked emission reduction credits of 780.0 tons per year for fugitive particulate emissions. The emissions reductions were the result of Monsanto's construction of a slag handling system (pot tapping) in 1980 which eliminated particulate-laden steam.

November 25, 1985 — DEQ issued Monsanto a certificate for banked emission reduction credits of 2.4 T/yr for fugitive particulate emissions. The emissions reductions were the result of Monsanto's paving of a 502-foot dirt road (Phos Avenue) in 1981.

April 15, 1986 — A PTC was issued to Monsanto for the new coke and quartzite dryer.

May 15, 1987 — The emission reduction credit for pot tapping, issued on November 25, 1985, was voided. Pages 8 through 10a of the operating permit, issued November 19, 1985, which contained the enforceable limits on the emission reduction *credit, were also voided.*

May 1, 1989 — Monsanto was issued a PTC for the dust slurry system.

July 25, 1989	A PTC was issued to Monsanto for the Enoch Valley Mine. As part of the technical analysis for the Enoch Valley Mine permit, DEQ determined that the mine is a separate facility from the Soda Springs facility because it does not .fall under the same SIC code and is not located on contiguous or adjacent property.
April 3, 1990	An operating permit was issued to Monsanto for emission reductions-scaleroom scrubber shutdown.
April 3, 1990	A PTC was issued to Monsanto for the new coke and quartzite dryer.
September 12, 1991	DEQ canceled the dust slurry system PTC after receiving notification from Monsanto that the dust slurry system was permanently shutdown.
March 29, 1994	A PTC was issued to Monsanto for the 100 ton per hour rock crusher and associated conveyors at the Enoch Valley Mine.
November 25, 1997	On October 8, 1997, DEQ received a letter from P_4 Production stating that Monsanto Company had entered into a joint venture with Solutia, Inc., to form a new company called P_4 Production, LLC. The letter requested that the PTCs held by Monsanto for the Enoch Valley Mine and the Soda Springs facility be reissued to P_4 Production. The permits were issued on the basis that no modifications or emissions increases resulted from the transition and were issued solely to reflect a change of ownership of the permitted emissions units. The coke fines and electric furnace addition system permit was reissued to P_4 Production. The new coke quartzite dryer permit was reissued to P_4 Production.
October 19, 2000	The new coke quartzite dryer and coke fines and electric furnace addition system permits were amended to replace pound per hour fugitive emission limits with reasonable control requirements. The permit number also changed to 029-00001.
October 23, 2000	The emission reductions-scaleroom scrubber shutdown operating permit was amended to replace pound per hour fugitive emission limits with reasonable control requirements. The permit number also changed to 029-00001.

4.2 Facility-Wide Applicable Requirements

Unless specified, the following requirements apply to all emissions units at the facility:

4.2.1 Permit Requirement – Rules for the Control of Fugitive Dust [IDAPA 58.01.01.650-651, 5/1/94]

4.2.1.1 Applicable Requirement (Permit Condition 1.1)

Permit Condition 1.1 states that all reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651.

The P_4 Production facility has operations that may emit fugitive dust. They include:

(a) Dirt roads
(b) Material stockpiles
(c) Handling coke, quartzite, ore, nodules, separator discharge material, and under flow solids
(d) Transporting of materials in open bodied trucks

4.2.1.2 Compliance Demonstration (Permit Conditions 1.2, 1.3, and 1.4)

Permit Condition 1.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive emissions. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive emissions which include, but are not limited to, use of water or chemicals, application of dust suppressants, use of control equipment, covering of trucks, paving of roads or parking areas, and removal of materials from streets when practical.

Permit Condition 1.3 requires that the permittee maintain records of all fugitive dust complaints received. In addition the permittee is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The permittee is also required to maintain records including the date that each complaint was received and description of the complaint; the permittee's assessment of the validity of the complaint; any corrective action taken and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive emissions are adequate, whether or not a complaint is received, Permit Condition 1.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during the daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emissions inspection.

Both Permit Conditions 1.3 and 1.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

4.2.2 Permit Requirement – Odorous Gas, Liquids, or Solids – [IDAPA 58.01.01.775-776, 5/1/94]

4.2.2.1 Applicable Requirement (Permit Condition 1.5)

Permit Condition 1.5 and IDAPA 58.01.01.776 both state: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."* This condition is currently considered federally enforceable until such time it is removed from the State Implementation Plan (SIP), at which time it will be a state-only enforceable requirement.

4.2.2.2 Compliance Demonstration (Permit Condition 1.6)

Permit Condition 1.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received; a description of the complaint; the permittee's assessment of the validity of the complaint; any corrective action taken; and the date the corrective action was taken.

Permit Condition 1.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

4.2.3 Permit Requirement – Visible Emissions – [IDAPA 58.01.01.625, 4/23/99, T] (Permit Conditions 1.7 and 1.8)

4.2.3.1 Applicable Requirement

Permit Condition 1.7 and IDAPA 58.01.01.625 state *that "(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined . . ."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas are the only reason(s) for the failure of the emission to comply with the requirements of this rule.

4.2.3.2 Compliance Demonstration

To ensure reasonable compliance with the visible emission rule, Permit Condition 1.8 requires that the permittee conduct routine visible emissions inspections of the facility as defined in Appendix A of the permit. The permittee is required to inspect potential sources of visible emissions during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any level of visible emissions is present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. If Method 9 is required, a minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136. The permittee is also required to maintain records of the results of each visible emissions inspection, which must include the date of each inspection; a description of the permittee's assessment of the conditions existing at the time visible emissions are present; any corrective action taken in response to the visible emissions; and the date corrective action was taken.

It should be noted that if a specific emissions unit has a specific compliance demonstration method for visible emissions that differs from Permit Condition 1.8, the specific compliance demonstration method overrides the requirement of Permit Condition 1.8. Permit Condition 1.8 is intended for small sources that would generally not have any visible emissions.

Permit Condition 1.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

On page 95 of the application, P_4 Production states that weekly audits for visible emissions are currently, and will continue to be, recorded for certain sources. Because Condition 1.8 is intended for small sources that would generally not have visible emissions, monitoring once each week is considered adequate. P_4 Production asked to have a list of sources that will be monitored included in an appendix to the permit so that P_4 Production and DEQ will have the same understanding of adequate monitoring. The list of sources in included in Appendix A of the permit.

4.2.4 Permit Requirement – Startup, Shutdown, Scheduled Maintenance, Safety Measures, Upset and Breakdown – [IDAPA 58.01.01.130-136, 5/1/94] (Permit Condition 1.9)

4.2.4.1 Applicable Requirement

Permit Condition 1.9 requires that the permittee comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upsets, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. It should, however, be noted that IDAPA 58.01.01.133.02, .133.03, .134.04, and .134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under IDAPA 58.01.01.131.02 to allow DEQ to determine if an enforcement action to impose penalties is warranted. IDAPA 58.01.01.131.01 states "*. . . The owner or operator of a facility or emissions unit generating excess emissions shall comply with IDAPA 58.01.01.131, .132, .133.01, .134.01, .134.02, .134.03, .135, and .136, as applicable. If the owner or operator anticipates requesting consideration under IDAPA 58.01.01.131.02, then the owner or operator shall also comply with the applicable provisions of IDAPA 58.01.01.133.02, 133.03, 134.04, and 134.05.*" Failure to prepare or file procedures pursuant to IDAPA 58.01.01.133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in IDAPA 58.01.01.133.03a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in IDAPA 58.01.01.133.02, 133.03, 134.04, and 134.05, and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

4.2.4.2 Compliance Demonstration

The compliance demonstration is contained within the text of Permit Condition 1.9. No further clarification is necessary here.

4.2.5 Permit Requirement – Periodic Compliance Certifications – [IDAPA 58.01.01.322.08, 5/1/94] (Permit Condition 1.10)

All periodic reports and certifications required by this permit shall be submitted within 60 days of the end of each specified reporting period to the appropriate DEQ and EPA Regional Office. P_4 Production requested 60 days to submit reports, rather than the standard 30 days, due to the complexity of the Soda Springs plant and the magnitude of some reporting requirements. The *Rules* do not specify a specific reporting period.

4.2.6 Permit Requirement – Recordkeeping – [IDAPA 58.01.01.322.07] (Permit Condition 1.11)

The permittee is required to maintain recorded data in an appropriate location for a period of at least 5 years from the date which the data was generated. Though specific applicable requirements may have shorter record retention times, this requirement requires the permittee to maintain recorded data for a period that will satisfy the shorter minimum record retention times.

4.2.7 Permit Requirement – Rules for Control of Open Burning – [IDAPA 58.01.01.600-616, 5/1/94] (Permit Condition 1.12)

All open burning shall be conducted in accordance with IDAPA 58.01.01.600-616.

In accordance with IDAPA 58.01.01.610, industrial flares, used for the combustion of flammable gases are allowable forms of open burning. Therefore, the No. 7 & 8 CO flare stack, No. 7 emergency CO flare stack, No. 8 emergency CO flare stack, and No. 9 CO flare stack are allowable forms of open burning. The No. 9 CO flare does not have an emergency stack.

4.2.8 Permit Requirement – Asbestos – [40 CFR 61 Subpart M] (Permit Condition 1.13)

The permittee shall comply with all applicable portions of 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

4.2.9 Permit Requirement – Chemical Accident Prevention Provisions – [40 CFR Part 68] (Permit Condition 1.14)

This facility is not currently subject to the requirements of 40 CFR Part 68. However, should the facility ever become subject to the requirements of 40 CFR Part 68, then it must comply with the provisions contained in 40 CFR Part 68 by the time listed below.

Any facility that has more than a threshold quantity of regulated substance in a process, as determined under 40 CFR 68.115, must comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR Part 68 no later than the latest of the following dates:

Three years after the date on which a regulated substance present above a threshold quantity is first listed in 40 CFR 68.130, or the date on which a regulated substance is first present above a threshold quantity in a process.

4.2.10 Testing Method (Permit Condition 1.15)

The test method(s) for each emission limit is listed in the permit in accordance with EPA's comments as follow below. If this permit requires any testing, it shall be conducted in accordance with the procedures in IDAPA 58.01.01.157:

"The specific reference test method and averaging times for each emission limit must be identified in the permit. A reference test method must be identified even if no source-testing requirement is imposed by the permit. Please note that, although we are aware that the state rules have recently been revised to include averaging items and test methods for most emission limits, the revised version of the Rules will not have been approved into the SIP at the time of issuance of the first permits."

4.2.10.1 Opacity

The opacity shall be determined by procedures contained in IDAPA 58.01.01.625. For NSPS-affected sources, EPA Reference Method 9 should be used.

4.2.10.2 PM/PM_{10}

EPA Reference Method 5, or a DEQ-approved testing method, shall be used to test PM/PM_{10} emissions. The averaging time comes from the EPA Reference Method 5.

4.2.10.3 CO

EPA Reference Method 10, or a DEQ-approved testing method, shall be used to test CO emissions. The averaging time comes from the EPA Reference Method 10.

4.2.10.4 Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x), and Volatile Organic Compounds (VOC)

EPA Reference Method 6, or a DEQ-approved testing method, shall be used to test SO_2 emissions. EPA Reference Method 7, or a DEQ-approved testing method, shall be used to test NO_x emissions. EPA Reference Method 25, or a DEQ-approved testing method, shall be used to test VOC emissions. The averaging time for each pollutant comes from the corresponding EPA Reference Method.

4.2.10.5 Visible Emissions Inspection

The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any level of visible emissions is present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

4.2.11 Permit Requirement – Distillate Fuel Oil – [IDAPA 58.01.01.728, 5/1/94] (Permit Condition 1.17)

4.2.11.1 Applicable Requirement

According to the permittee's application, distillate fuel oil is used at the facility.

4.2.11.2 Compliance Demonstration (Permit Condition 1.18)

The permittee shall maintain documentation of supplier verification of distillate fuel oil sulfur content on an as-received basis. Maintaining documentation that shows all distillate fuel oil received contains no more than 0.3% sulfur by weight for grade 1 and 0.5% sulfur by weight for grade 2 will show compliance with this standard.

4.2.12 Permit Requirement – Ambient Air Quality Monitoring Requirements – [IDAPA 58.01.01.322.14, 5/1/94] (Permit Condition 1.20)

DEQ is requiring the permittee to conduct ambient monitoring to demonstrate that the emissions increases resulting from modifications at the facility have not caused a violation of the SO_2 ambient air quality standards. Prior to modifying the No. 7 furnace in 1989 and 1994, P4 should have submitted an application in accordance with IDAPA 58.01.01.205.01.b that showed emission increases from the modifications would not cause or significantly contribute to violations of any ambient air quality standard. An application was not submitted for the modifications and since that time the Department has monitored exceedances of the SO_2 ambient standards near the boundary of the P4 facility. Therefore, the Department is requiring P4 to conduct ambient monitoring of SO_2 concentrations as a condition for approval of the Tier I operating permit (IDAPA 58.01.01.322.14).

4.3 Non-Applicable Requirements

The requirements listed below were reviewed and determined to be not applicable.

4.3.1 [40 CFR 60 Subpart Dc] Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR 60 Subpart Dc is not applicable to sources 804.00 or 805.00 (natural gas-fired boiler with distillate fuel oil for standby) because they were installed before June 8, 1989.

4.3.2 [40 CFR 60 Subpart K] Standards of Performance for Storage Vessels for Petroleum Liquids

40 CFR 60 Subpart K, specifically 40 CFR 60.113(d)(1), is not applicable to storage vessels at the facility (sources 848.00 and 848.20). This is because AP-42 (5^{th} edition), Table 7.1-2 shows the true vapor pressure of diesel will not exceed 0.022 pounds per square inch absolute.

4.3.3 [40 CFR 60 Subpart NN] Standards of Performance for Phosphate Rock Plants

40 CFR 60 Subpart NN is not applicable to facilities preparing phosphate rock solely for consumption in elemental phosphorus production (40 CFR 60.400(a)).

4.3.4 [40 CFR 60 Subpart OOO] Standards of Performance for Nonmetallic Mineral Processing Plants

The P_4 Production facility does not meet the definition of a nonmetallic mineral processing plant because the facility does not crush or grind any nonmetallic mineral, including quartzite.

4.3.5 [40 CFR 60 Subpart UUU] Standards of Performance for Calciners and Dryers in Mineral Industries

The P_4 Production facility does not meet the definition of a mineral processing plant because the whole facility does not process greater than 50% industrial sand.

4.3.6 [IDAPA 58.01.01.625.1.b] Visible Emissions – Exemptions

According to the permittee's application, P_4 Production does not have carbon monoxide flare pits on their elemental phosphorus furnace so the exemption is not applicable to P_4 Production's operations.

4.4 Hazardous Air Pollutants (HAPs)

The P_4 Production facility is a major source of HAP emissions, most of which are from metals present in the ore.

Table 1. Facility-wide Point and Fugitive Hazardous Air Pollutant Emissions

Pollutant	Actual Emissions (pounds per hour)	Maximum Emissions	
		(pounds per hour)	(tons per year)
Antimony	0.02	0.05	0.1
Arsenic	0.06	0.06	0.2
Asbestos	0.02	0.03	0.0005
Beryllium	0.0003	0.0007	0.001
Cadmium	0.2	0.2	0.8
Chromium	5.7	5.9	10.4
Cobalt	0.003	0.005	0.01
Lead	0.2	0.2	0.4
Manganese	0.1	0.2	0.6
Mercury	0.1	0.1	0.3
Nickel	0.02	0.05	0.07
Phosphine	19.5	19.5	84.5
Phosphorus	3.7	3.7	15.9
Selenium	2.1	2.1	4.8
Total			118

4.5 Alternative Operating Scenarios

Primary Process Method	Alternate Process Method	Effect on Emissions
Furnace fumes are currently collected for each furnace by an individual Tap Hole Fume Collector.	While a furnace is down, furnace fumes can be collected by a Tap Hole Fume Collector from a different furnace.	This scenario allows for additional fugitive emissions collections during periods of furnace down time.

In the application, P_4 Production requested to burn No. 2 diesel fuel in A/U Boiler and treaters up to one month per year in case the natural gas supply is interrupted. They later submitted letters documenting that diesel fuel will not be burned in either the boiler or treater heaters.

4.6 Trading Scenarios

Specific trades were not requested in the application.

4.7 Excess Emissions

P_4 Production submitted excess emissions plans in Appendix D of their Tier 1 operating permit application for the following equipment:

No. 105 Vibrating Pan Feeder/105 Baghouse Stack
No. 105 Belt Loading
No. 105 Belt Unloading/Coke and Quartzite Baghouse Stack
No. 124 Quartzite Belt Loading/Unloading
No. 107 Elevator Belt Loading/Unloading
Coke Screens/Dried Coke
Bin 8, 9, and 10 Loading
Bin No. 11 (Fine Coke) Loading
Fine Coke to No. 828 Belt/Coke and Quartzite Baghouse Stack
No. 123 Belt Loading/C&Q Baghouse Stack
No. 201 Belt Loading/Unloading/Nodule Scrubber Stack
North and South Dried Quartzite Screens
No. 1 Bin Dried Quartzite Loading
Quartzite Fines Conveyor Belt Loading
Quartzite Fines Unloading to the Bunker
No. 104 Belt
No. 104 Belt Ore, SDM, UFS to Grizzly
Belt No. 265 Nodules to Distributor (300, 289)
No. 300 Belt Nodules to Raw Nodule Storage
Raw Nodule Dump to Reclaim Hopper
Reclaim Hopper to Belt No. 882
Coarse Gundlach Crusher
No. 273 Gundlach Crusher
289, 882, & Reclaim Elevator to Top Screen Splitter
East & West Top Sizing Screens
Nodules to No. 290 Elevator
Nodules to No. 291 Elevator
Nodules to Splitters
North and South Triple Screens
North and South Fines to No. 880 Belt
North and South Mediums to No. 879 Belt
North and South Coarses to No. 878 Belt
Fine Nodules to Bins 4 and 5
Medium Nodules to Bins 2 and 3
Coarse Nodules to Bins 6 and 7
SDM to Blow Tank
Blow Tank Bypass to SDM Alley
SDM Blow to Hopper
421 Distributor
421 Distributor to Belt 417
421 Distributor to Belt 418
421 Distributor to Belt 419
417 Burden Belt
418 Burden Belt
419 Burden Belt
Belt 417 feed to 672 Distributor
672 Distributor to South Twin Belt

672 Distributor to North Twin Belt
No. 7 CO Dust Bypass Stack
Vent Riser No. 7
FeP Slag Tapping
CaSi Slag Tapping
Treater Dust Bin Fugitives No. 7
No. 7 CO to Flare
Belt 418 Feed to E/W Pivot Belt
No. 8 CO Dust Bypass Stack
Vent Riser No. 8
FeP Slag Tapping
CaSi Slag Tapping
No. 8 CO to Flare
Belt 419 Feed to E/W 420 Pivot Belt
No. 9 CO Dust Bypass Stack
Vent Riser No. 9
FeP Slag Tapping
CaSi Slag Tapping
No. 9 CO to Flare

Expected pound per hour (lb/hr) excess emissions from the equipment listed above were provided by the permittee in Appendix E of the application.

5. *REGULATORY ANALYSIS - EMISSIONS UNITS*

5.1 Emissions Point 1 – Phosphate Ore-Nodulizing Kiln

5.1.1 Emissions Unit Description

The heart of the Burden Preparation Department is the rotary kiln. A belt conveyer feeds blended ore to the rotary kiln. Nodule Separator Discharge Material is stockpiled and recycled to the kiln. Phosphate ore dust from the kiln's dropout chamber is collected and routed to the scrubber clarifier. Also, the Under Flow Solids (UFS) from the scrubber clarifier are dewatered and eventually recycled to the kiln by blending with the feedstock. The rotary kiln produces hardened nodules that allow for proper operation of the electric reduction furnaces. The rotary kiln raises the ore temperature to its incipient melting point and the tumbling action causes the ore to agglomerate into the desired nodular form. The rotary kiln is fueled with carbon monoxide (generated in the electric reduction furnace operation), natural gas, and supplemental coal. The hot nodules pass through a cooler and chunk breaker with a separate off-gas treatment system before being conveyed to the sizing/screening operation.

Exhaust gases from the kiln pass through a dust knockout chamber, spray tower, and four Hydro-Sonic® scrubbers before discharge to the atmosphere. The initial control device is a settling chamber where large particles from the kiln off-gas are collected. In normal operation, a damper in the settling chamber directs the exhaust gas to a waste heat boiler. The waste heat boiler and settling chamber both serve as dust collectors. The collected dust is recycled to the kiln as part of the underflow solids. The exhaust gas is then routed through a short duct to a concrete spray tower, where the exhaust gas is passed through water sprays to remove soluble gases and particulate matter. The water spray nozzles are located symmetrically around the circular tower at five levels. From there, the exhaust gas is pulled to a header system where it is routed to four parallel venturi gas cleaning systems and cyclonic separators that are efficient in removing submicron particles and entrained particulate-laden water. Finally, the gases proceed through four fans and then to four stacks where they exit to the atmosphere.

The liquid effluent from all scrubbers in the nodule preparation area is collected in a clarifier where lime is added to control pH and sulfide is added to stabilize the UFS. The UFS from the clarifier are dewatered and may be recycled by blending with the ore feedstock.

The raw nodules produced by the rotary kiln fall from the discharge end of the kiln onto a traveling-grate cooler. The hot nodules pass through the cooler outlet onto a metal pan conveyor to the sizing/screening operation. Raw nodule production is split, with part going directly into the crushing and screening process and part to the raw nodule stockpile. Part of the nodule production is stockpiled because the kiln produces more nodules per day than can be consumed by the furnaces, and despite having passed through the cooler, the raw nodules are too hot to be processed by scale room bins and equipment. This stream is cooled by the addition of cooled (reclaimed) nodules from the stockpile.

Control Equipment Specifications

Kiln Venturi Scrubbers (4)

Pressure Drop:	40 inches of water
Wet Scrubber Flow:	4100 gallons per minute
Stack Height:	213 feet
Stack Diameter:	55.5 inches
Gas Flow Rate:	263,800 actual cubic feet per minute

Nodule Cooler Spray Tower

Stack Height:	118 feet
Stack Diameter:	12.7 feet
Gas Flow Rate:	140,900 actual cubic feet per minute
Wet Scrubber Flow:	1080 gallons per minute

Kiln Spray Tower

Pressure Drop:	4 inches of water
Wet Scrubber Flow:	2500 gallons per minute

5.1.2 Permit Requirement – National Emission Standards for Radionuclide Emissions from Elemental Phosphorus Plants - [40 CFR 61.122] (Permit Condition 2.1)

5.1.2.1 Applicability

The provisions of 40 CFR 61Subpart K, *National Emission Standards for Radionuclide Emissions from Elemental Phosphorus Plants*, are applicable to owners or operators of calciners and nodulizing kilns at elemental phosphorus plants. P_4 Production owns and operates a nodulizing kiln at the Soda Springs elemental phosphorus plant.

5.1.2.2 Compliance Demonstration

Emissions of polonium-210 to the ambient air from all calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of two curies a year, except that compliance with this standard may be conclusively shown if the elemental phosphorous plant:

(a) Installs a Hydro-Sonic® Tandem Nozzle Fixed Throat Free-Jet Scrubber System including four scrubber units.

(b) All four scrubber units are operated continuously with a minimum average over any 6-hour period of 40 inches (water column) of pressure drop across each scrubber during calcining of phosphate shale,

(c) The system is used to scrub emissions from all calciners and/or nodulizing kilns at the plant, and

(d) Total emissions of polonium-210 from the plant do not exceed 4.5 curies per year.

Alternative operating conditions, which can be shown to achieve an overall removal efficiency for emissions of polonium-210 that is equal to or greater than the efficiency that would be achieved under the operating conditions described in (a), (b), and (c) of this section, may be used with prior approval of the Administrator. A facility shall apply for such approval in writing, and the Administrator shall act upon the request within 30 days after receipt of a complete and technically sufficient application.

The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source.

5.1.2.3 Monitoring

Monitoring shall be conducted in accordance with 40 CFR 61.126(a), which states:

> *"The owner or operator of any source subject to this Subpart using a wet-scrubbing emission control device shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement and recording of the pressure drop of the gas stream across each scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 Pascal (±1 inch of water). The owner or operator of any source subject to this Subpart using a wet-scrubbing emission control device shall also install, calibrate, maintain, and operate a monitoring device for the continuous measurement and recording of the scrubber fluid flow rate. These continuous measurement recordings shall be maintained at the source and made available for inspection by the Administrator, or his authorized representative, for a minimum of five years."*

40 CFR 61.126(b) gives monitoring requirements for sources using electrostatic precipitators for control devices. Since P_4 Production uses the hydro-sonic scrubbers and not electrostatic precipitators, the subsection does not apply to them.

Monitoring shall also be conducted in accordance with the General Provisions at 40 CFR 61.14, which are included in the permit.

5.1.2.4 Testing

Emissions testing shall be conducted in accordance with 40 CFR 61.123 and 125.

40 CFR 61.123(a) states:

> *"Each owner or operator of an elemental phosphorus plant shall test emissions from the plant within 90 days of the effective date of this standard and annually thereafter. The Administrator may temporarily or permanently waive the annual testing requirement or increase the frequency of testing, if the Administrator determines that more testing is required."*

In a letter dated June 28, 1996, P_4 Production submitted an application for a permanent waiver of annual emission testing to EPA Region 10. On July 29, 1996, the EPA responded with a letter granting a permanent waiver of the annual emission-testing requirement. A copy of the letter can be found in Appendix B.

5.1.2.5 Recordkeeping

In accordance with 40 CFR 61.124, the owner or operator of any plant must maintain records documenting the source of input parameters, including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used in emission testing. This documentation should be sufficient to allow an independent auditor to verify the accuracy of the results of the emission testing. These records must be kept onsite for at least five years and, upon request, be made available for inspection by the Administrator, or his authorized representative.

5.1.2.6 Reporting

All facilities designated under 40 CFR 61 Subpart K are exempt from the reporting requirements of 40 CFR 61.10, in accordance with 40 CFR 60.127.

All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the Region 10 Office of the U.S. Environmental Protection Agency to the attention of the Director of the Division:

Director
Air and Waste Management Division
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.1.3 Permit Requirement – Sulfur Content - [IDAPA 58.01.01.729, 5/1/94] (Permit Condition 2.15)

5.1.3.1 Applicability

No person shall sell, distribute, use, or make available for use, any coal containing greater than 1% sulfur by weight.

According to the permittee's application, coal is burned in the kiln along with CO and natural gas.

5.1.3.2 Compliance Demonstration

The permittee shall maintain documentation of supplier verification of coal sulfur content. Maintaining documentation that shows all coal received contains no more than 1% sulfur by weight will show compliance with this standard.

5.1.3.3 Monitoring

None Required.

5.1.3.4 Testing

None required.

5.1.3.5 Recordkeeping

The documentation shall be kept for a period of five years and made available to DEQ representatives upon request.

5.1.3.6 Reporting

None required.

5.1.4 Permit Requirement – Particulate Matter Process Weight Limitations - [IDAPA 58.01.01.702, 4/5/00] (Permit Condition 2.17)

5.1.4.1 Applicability

Nodule production and handling is a process as defined in IDAPA 58.01.01.006.79.

5.1.4.2 Compliance Demonstration Method

The permittee will calculate the allowable emissions limit from the process and maintain records demonstrating compliance with the limit.

The total process weight is that amount of material, in lb/hr, being fed to the nodulizing kiln. Operating permit No. 13-0420-001-02 for the phosphate ore nodulizing kiln and cooler, issued July 18, 1979, states that total actual emissions are calculated by adding the emissions from the nodulizing kiln and cooler spray tower. That is, all emissions from the four kiln Hydro-Sonic® scrubber stacks and the cooler spray tower must be totaled and this total must be in compliance with the process weight rule.

The Hydro-Sonic® scrubbers and cooler spray tower were last tested in October 2001 and found to be in compliance with the process weight rate limitations. The source test was performed at an average kiln production rate of 246 tons per hour (T/hr) which corresponds to an allowable emission rate of $1.12(492{,}000)^{0.27}$ = 38.55 lb/hr. The combined emission rate from the four kiln Hydro-Sonic® scrubber stacks and the cooler spray tower during the source test was 35 lb/hr. The process weight equation for process weights less than 17,000 pounds per hour was not included in the permit because it is unlikely the permittee will test at that low of a throughput rate.

5.1.4.3 Monitoring

The permittee will monitor the weight of material processed in tons per month and hours of operation per month to determine an average hourly throughput on a monthly basis.

5.1.4.4 Testing

In the application, P_4 Production proposed testing to determine particulate matter emissions from the kiln venturi scrubber stacks and nodule cooler spray tower every three years beginning in 2001. However, P_4 Production requested in a letter dated May 1, 2001, to include the standard hierarchical testing schedule language that is based on a percentage of the allowable limit. In comments on the draft permit, P_4 requested the testing schedule be changed back to once every three years.

5.1.4.5 Recordkeeping

The permittee must maintain records of:

a) The average hourly throughput of the process on a monthly basis;

b) The calculated monthly emissions from the process; and

c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.1.4.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.1.5 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 2.13)

5.1.5.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.1.5.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.1.5.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 1 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.1.5.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.1.5.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.1.5.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.2 Emissions Point 2 – Dryer & Dryer Baghouse 836

5.2.1 Emissions Unit Description

Emissions from coke and quartzite dryer 851 (dryer) and emissions from the transfer associated with moving dried coke, quartzite, and coke fines from dryer 851 to belt 835 are vented to dryer baghouse 836. The gases from the baghouse are emitted through a stack. Dust collected in the baghouse is stockpiled via the vacuum truck.

Specifications

Brand:	Mikro-Pulsaire
Model No:	860J10TRH
Stack Height:	55 feet
Stack Diameter:	2.5 feet
Flow Rate:	52,000 actual cubic feet per minute

5.2.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 3.1)

5.2.2.1 Applicability

The applicable requirement comes from Permit Condition 2.1.1 of the *Coke Fines Electric Furnace Addition System* PTC issued October 19, 2000, as part of the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process. It also appears in Permit Condition 2.1 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Coke Drying and Associated Handling" process. It appears again in Permit Condition 2.1.1 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Quartzite Drying and Associated Handling Process".

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply.
The application shows the maximum throughput of coke is 50 tons per hour and the maximum throughput of quartzite is 118 tons per hour. Using the 50 ton per hour process weight rate, the allowable particulate emission rate is 25.07 pounds per hour. Therefore, the PTC limit of 1.51 pounds per hour is the most stringent.

In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979.

In operating permit No. 0420-00001, baghouse 836 is part of the "Quartzite Drying and Associated Handling" process, the "Coke Drying and Associated Handling" process, and the "Coke Fines Screening and Handling from the Stockpile or Railcars to the Bulk Storage Bin" process. The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate (PWR) *"must apply to each individual process that emits and changes, stores or handles product."* Therefore, the process has been redefined to include only those emissions units that are controlled by baghouse 836.

5.2.2.2 Applicable Requirement

Particulate emissions shall not exceed 1.51 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 5.3 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative, emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

5.2.2.3 Compliance Demonstration

The permittee conducted a Method 5 source test in January 2002 that demonstrated compliance with the emission limit. The permittee is required to use the same type of bags that were used during the approved source test. The permittee previously failed two source tests prior to switching bags.

5.2.2.4 Monitoring

The permittee is required to install instrumentation to accurately measure and indicate the pressure drop across the baghouse. Once each week, the permittee must monitor the hours of operation, average pound-per-hour throughput of the dryer, pressure drop across the baghouse, and the plant compressed air pressure. Visible emissions from the baghouse stack will be monitored once each week on a see/no see basis in accordance with Permit Condition 1.8.

The permittee will monitor the weight of material processed in tons per month.

5.2.2.5 Testing

Particulate matter testing was completed in January 2002. The test was conducted at a production rate of 97 T/hr and resulted in an emission rate of 0.19 lb/hr, which is less than 50% of the allowable rate. Therefore, no further testing is required during the life of the permit.

5.2.2.6 Recordkeeping

The permittee will record the pressure drop across the baghouse and hours of operation once each week. Visible emissions observations from the baghouse stack will also be recorded once each week.

The permittee must maintain records of:

a) The hourly throughput of the process;

b) The calculated annual emissions from the process in T/yr; and

c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.2.2.7 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.2.3 Permit Requirement – Nitrogen Oxide Limits - [PTC No. 0420-0001, Permit Condition 2.1.2, 10/19/00] (Permit Condition 3.2)

5.2.3.1 Applicability

The applicable requirement comes from Permit Condition 2.1.2 of the *Coke Fines Electric Furnace Addition System* PTC issued October 19, 2000, as part of the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process. It also appears in Permit Condition 2.1.2 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Coke Drying and Associated Handling" process. The applicable requirement appears again in Permit Condition 2.1.2 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Quartzite Drying and Associated Handling Process".

5.2.3.2 Applicable Requirement

Nitrogen oxides emissions shall not exceed 7.0 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 7, or an approved alternative, emission test by the actual hours of operation per year, or (if actual is not available) as determined by the state's emission estimation methods used in the P_4 Production coke and quartzite dryer application analysis.

5.2.3.3 *Compliance Demonstration*

Once each month, the permittee shall monitor and record the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period. Once each month, the permittee shall multiply the volume of natural gas combusted by a DEQ-approved emission factor to determine the emissions, in tons per month, of NO_x for that month. Once each month, the permittee shall sum the emissions of NO_x for the previous consecutive 12-month period (T/yr).

The "DEQ-approved emission factor" is generally considered the most current AP-42 emission factor for *natural gas combustion*.

5.2.3.4 Monitoring

Once each month, the permittee shall monitor the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period.

5.2.3.5 Testing

EPA Reference Method 7, or an approved alternative, must be used to test for NO_x emissions, if emission testing is used to demonstrate compliance.

5.2.3.6 Recordkeeping

Once each month, the permittee shall record the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period. The records shall be kept for a period of five years from the date the monitoring was done.

5.2.3.7 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.2.4 Permit Requirement – CO Emission Limit - [PTC No. 029-0001, Permit Condition 2.1.3, 10/19/00] (Permit Condition 3.3)

5.2.4.1 Applicability

The applicable requirement comes from Permit Condition 2.1.3 of the *Coke Fines Electric Furnace Addition System* PTC issued October 19, 2000, as part of the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process. It is also in Permit Condition 2.1.3 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Coke Drying and Associated Handling" process. The requirement appears again in Permit Condition 2.1.3 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Quartzite Drying and Associated Handling" process.

5.2.4.2 Applicable Requirement

Carbon monoxide emissions shall not exceed 1.33 lb/hr, as determined by an EPA Reference Method 10, or an approved alternative, emission test. Annual CO emissions shall not exceed 1.8 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 10, or an approved alternative, emission test by the actual hours of operation per year or (if actual is not available) as determined by the state's emission methods used in the P_4 Production coke and quartzite dryer application analysis.

5.2.4.3 Compliance Demonstration

Once each month, the permittee shall monitor and record the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period. Once each month, the permittee shall multiply the volume of natural gas combusted by a DEQ-approved emission factor to determine the emissions of CO in lb/hr and tons per month. The "DEQ-approved emission factor" is generally considered the most current AP-42 emission factor for natural gas combustion. Once each month, the permittee shall sum the emissions of CO for the previous consecutive 12-month period (T/yr).

5.2.4.4 Monitoring

Once each month, the permittee shall monitor the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period.

5.2.4.5 Testing

EPA Reference Method 10, or an approved alternative, must be used to test for CO emissions, if emission testing is used to demonstrate compliance.

5.2.4.6 Recordkeeping

Once each month, the permittee shall record the cubic feet of natural gas combusted in the dryer for that month and for the previous consecutive 12-month period. The records shall be kept for a period of five years from the date the monitoring was done.

5.2.4.7 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.2.5 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 3.4)

5.2.5.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.2.5.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.2.5.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 2 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.2.5.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.2.5.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.2.5.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.3 Emissions Point 3 – Baghouse 104

5.3.1 Emissions Unit Description

Baghouse 104 controls emissions from the handling of phosphate ore, separator discharge material, and underflow solids to belt 104 and from belt 104 to the grizzly.

Specifications

Stack Height:	43 feet
Stack Diameter:	1.67 feet
Stack Gas Flow Rate:	11,000 actual cubic feet per minute
Stack Temperature:	70 (degrees F)
Pressure Drop:	2 inches of water
Air/Cloth Ratio:	3.88 to 1

5.3.2 Permit Requirement – Process Weight Limitations - [IDAPA 58.01.01.702, 4/5/00] (Permit Condition 4.3)

5.3.2.1 Applicability

Handling of phosphate ore, separator discharge material, and underflow solids is a process as defined in IDAPA 58.01.01.006.79.

5.3.2.2 Compliance Demonstration Method

The permittee shall calculate the allowable emissions from the process and maintain records demonstrating compliance with the limit. The permittee must use an emission factor of 0.01 gr/dscf to calculate actual emissions, unless actual emissions data is available. 11000 acfm x 0.01 gr/dscf = 0.94 lb/hr. The application says the maximum hourly throughput rate of the process is 450 tons per hour. Therefore, the allowable emission rate is 45.4 pounds per hour. However, if a source test is conducted, the process weight attained during the source test shall be used to calculate a new allowable emission rate.

5.3.2.3 Monitoring

The permittee must monitor the following:

a) The average hourly throughput of the process;

b) The calculated monthly emissions from the process;

c) The hours of operation for each month and for the previous consecutive 12-month period; and

d) The pressure drop across the baghouse and the plant compressed air pressure once each week.

These records shall be maintained in accordance with Permit Condition 1.11.

5.3.2.4 Testing

None required.

5.3.2.5 Recordkeeping

The permittee must maintain records of all required monitoring data. These records shall be maintained in accordance with Permit Condition 1.11.

5.3.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.3.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 4.2)

5.3.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.3.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.3.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 3 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.3.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.3.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.3.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.4 Emissions Point 4 – Baghouse 105

5.4.1 Emissions Unit Description

Emissions from the transfer associated with moving coke from belt 835 to belt 105, transfer of coke from the 105 vibrating feeder to the 105 belt, quartzite from belt 835 to belt Q1, and quartzite from belt Q1 to belt Q2 are vented to baghouse 105. Dust collected in the baghouse is stockpiled via the vacuum truck.

Specifications

Stack Height:	51 feet
Stack Diameter:	1.8 feet
Flow Rate:	9,000 cubic feet per minute

5.4.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.2.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 5.1)

5.4.2.1 Applicability

The applicable requirement comes from Permit Condition 2.2.1 of the *New Coke Quartzite Dryer* PTC issued October 19, 2000, as part of the "Coke Drying and Associated Handling" process. The requirement is also found at Permit Condition 2.2.1 of the same permit as part of the "Quartzite Drying and Associated Handling" process. It also appears in Permit Condition 2.1.1 of the *Coke Fines Electric Furnace Addition System* PTC, issued on October 19, 2000, as part of the "Coke Fines Screening and Handling from the Stockpile or Railcars to the Bulk Storage Bin" process and also in Permit Condition 2.2.1 of the *Coke Fines Electric Furnace Addition System* PTC as part of the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process.

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The PTC limit of 20 lb/hr is the most stringent. The application says the maximum hourly transfer rate of dried coke fines is 30 tons per hour In the draft permit comments, the permittee stated that the design maximum feed rate for coke is 120 tons per hour and the design maximum feed rate for quartzite is 150 tons per hour. Thus, the process weight rate under the worst-case design maximum is 33.7 pounds per hour.

Emissions from the transfer associated with moving coke and quartzite from belt 835 to belt 105 are vented to baghouse 105. The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate *"must apply to each individual process that emits and changes, stores or handles product."* Therefore, the process has been defined to include only those emissions units that are controlled by baghouse 105.

5.4.2.2 Compliance Demonstration

Emissions from baghouse 105 will be inherently lower than the emission standard of 20 lb/hr and 72.8 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[1] The source tested emission rate from the scaleroom baghouse is 0.006 gr/dscf. The application states the flow rate through baghouse 105 is 9,000 cubic feet per minute. Therefore, the estimated emission rate from the baghouse is 0.77 lb/hr and 3.4 T/yr. However, the emission limit in the PTC requires compliance to be determined by a source test.

The permittee shall determine the actual hourly emissions from the process and maintain records demonstrating compliance with the limit.

5.4.2.3 Monitoring

Pressure drop and plant compressed air pressure will be monitored once each week. Visible emissions will be monitored once each week.
The permittee must maintain records of:

a) The hourly throughput of the process;

b) The calculated annual emissions from the process using allowable hourly emissions, unless actual emission data is available; and

c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

---

[1] Anthony J. Buonicore and Wayne T. Davis, *Air Pollution Engineering Manual*, (New York: Van Nostrand Reinhold, 1992), 115.

5.4.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the PTC, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the PTC did not require the permittee to conduct a source test so a source test was never performed.

5.4.2.5 Recordkeeping

The permittee must maintain records of all required monitoring.

5.4.2.6 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.4.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 5.2)

5.4.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.4.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.4.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 4 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.4.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.4.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.4.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.5 Emissions Point 5 – Coke Bunker Baghouse

5.5.1 Emissions Unit Description

Material is unloaded from rail cars to the coke bunker. When dumped to the coke bunker, material is reclaimed by loader and hauled to the material stockpile.

Emissions from the transfer associated with moving material from the rail cars to the coke bunker are vented to the coke bunker baghouse. Emissions from the loader traffic associated with moving material from the coke bunker to the material stockpile are uncontrolled. Emissions from the transfer associated with moving material from the loader to the material stockpile are uncontrolled. Dust collected in the coke bunker baghouse is stockpiled via the vacuum truck.

Specifications

Stack Height:	51 feet
Stack Diameter:	2.2 feet
Flow Rate:	15,000 cubic feet per minute

5.5.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.1.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 6.1)

5.5.2.1 Applicability

The applicable requirement is found in Permit Condition 2.1.1 of the *Coke Fines Electric Furnace Addition System* PTC, issued on October 19, 2000, as part of the "Coke-fines Handling from Railcars to the Stockpile" process.

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The PTC limit of 11 lb/hr is the most stringent. The application says the maximum throughput rate is 100 tons per hour. Therefore, the process weight rate equations limit emissions to 30.23 pounds per hour.

The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate (PWR) *"must apply to each individual process that emits and changes, stores or handles product."* Therefore, the process has been defined to include only those emissions units that are controlled by the coke bunker baghouse.

5.5.2.2 Compliance Demonstration

Emissions from the coke bunker baghouse will be inherently lower than the emission standard of 11 lb/hr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[2] The source tested emission rate from the scaleroom baghouse is 0.006 gr/dscf. The permittee's comments on the draft permit state the flow rate through the coke bunker baghouse is 15,000 cfm. Therefore, the estimated actual emission rate from the baghouse is 1.3 lb/hr and 5.7 T/yr. However, the emission limit in the PTC requires compliance to be determined by a source test.

The permittee shall determine the actual hourly emissions from the process and maintain records demonstrating compliance with the limit.

[2] Buonicore and Davis, p. 115

5.5.2.3 Monitoring

Pressure drop and plant compressed air pressure will be monitored once each week. Visible emissions will be monitored once each week. The permittee will monitor the weight of material processed in T/hr. Monitoring may consist of the number of buckets of coke removed from the coke bunker.

The permittee must maintain records of:

(a) The average hourly throughput of the process;

(b) The calculated annual emissions from the process using allowable hourly emissions, unless actual emission data is available; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11 of the permit.

5.5.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the PTC, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the PTC did not require the permittee to conduct a source test so a source test was never performed.

5.5.2.5 Recordkeeping

The permittee must maintain records of all required monitoring.

5.5.2.6 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.5.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 6.2)

5.5.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.5.3.2 Compliance Demonstration Method

P_4 Production shall conduct a weekly visible emissions inspection. According to P_4 Production, the baghouse only operates while coke is unloaded from the rail cars. Coke-unloading occurs relatively infrequently and there can be periods of weeks or months when the system is not used.

5.5.3.3 Monitoring

The permittee shall conduct a weekly visible emissions inspection.

5.5.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.5.3.5 Recordkeeping

The records shall, at a minimum, include the date of each test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.5.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.6 Emissions Point 6 – Coke-Handling Baghouse

5.6.1 Emissions Unit Description

Emissions from the transfers associated with moving coke from belt 105 to coke bins 8, 9, 10, or 11 are all vented to the coke-handling baghouse. Dust collected in the baghouse is stockpiled via the vacuum truck.

Specifications

Stack Height:	60 feet
Stack Diameter:	4.0 feet
Flow Rate:	26,000 cubic feet per minute

5.6.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.3.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 7.1)

5.6.2.1 Applicability

The applicable requirement is found in Permit Condition 2.3.1 of the "Coke Drying and Associated Handling" process in the *New Coke Quartzite Dryer* PTC issued on October 19, 2000. It is also found in Permit Condition 2.3.2 of the "Quartzite Drying and Associated Handling" process in the same permit. The requirement can be found in Permit Condition 2.2.1 of the "Coke Fines Screening and Handling from the Stockpile or Railcars to the Bulk Storage Bin" process in the *Coke Fines Electric Furnace Addition System* PTC issued on October 19, 2000. The requirement is found one more time in Permit Condition 2.3.1 of the same permit in the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process.

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The PTC limit of 20 lb/hr is the most stringent. The application says the maximum throughput rate of the process is 50 tons per hour. Therefore, the allowable emissions according to the process weight equations is 25.07 pounds per hour. However, if the source test is conducted at a throughput rate of less than 50 tons per hour the process weight equations may become the most stringent limit.

The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate *"must apply to each individual process that emits and changes, stores or handles product."* Therefore, the process has been defined to include only those emissions units that are controlled by the coke-handling baghouse.

5.6.2.2 Compliance Demonstration

Emissions from the coke-handling baghouse will be inherently lower than the emission standard of 20 lb/hr and 72.8 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[3] The application states the flow rate through the coke-handling baghouse is 57,800 cfm. Therefore, the estimated actual emission rate from the baghouse is 4.95 lb/hr and 21.7 T/yr. However, the emission limit in the PTC requires compliance to be determined by a source test.

The PTC emission limit of 20 lb/hr is the governing limit until the source test is completed and the process weight rate equations have been checked to see if they produce a more stringent lb/hr limit.. The permittee shall determine the actual emissions from the process and maintain records demonstrating compliance with the limit.

5.6.2.3 Monitoring

Pressure drop and plant compressed air pressure will be monitored once each week. Visible emissions will be monitored once each week.

The permittee must monitor and maintain records of:

(a) The average hourly throughput of the process;

(b) The calculated hourly process weight rate limitations using the formula in Permit Condition 7.1, if the throughput during the compliance test is below 43,285 lb/hr;

(c) The calculated annual emissions from the process using allowable hourly emissions, unless actual emission data is available; and

(d) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.6.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the PTC, now included in the Tier I, required compliance with the hourly limit to be determined by a source test. However, the PTC did not require the permittee to conduct a source test so a source test has not been performed.

5.6.2.5 Recordkeeping

The permittee must maintain records of all required monitoring data.

5.6.2.6 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

[3] Buonicore and Davis, p. 115

5.6.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 7.2)

5.6.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.6.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.6.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 6 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.6.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.6.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.6.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.7 Emissions Point 7 – Bulk Storage Bin Baghouse

5.7.1 Emissions Unit Description

Emissions from the transfer associated with moving coke from belt 828 to the bulk storage bin are vented to the bulk storage bin baghouse. Emissions from the transfer associated with moving coke from the bulk storage bin to the first air conveyor are vented to the baghouse.

Dust collected in the bulk storage bin baghouse empties back into the bulk storage bin.

Specifications

Vent Height:	74 feet
Vent Diameter:	9 1/16 inches by 8 inches (rectangular)
Flow Rate:	1080 standard cubic feet per minute

5.7.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.4.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 8.1)

5.7.2.1 Applicability

The applicable requirement is found in Permit Condition 2.4.1 of the "Coke Drying and Associated Handling" process in the *New Coke Quartzite Dryer* PTC issued on October 19, 2000. The requirement can also be found in Permit Condition 2.3.1 of the "Coke Fines Screening and Handling from the Stockpile or Railcars to the Bulk Storage Bin" process in the *Coke Fines Electric Furnace Addition System* PTC issued on October 19, 2000, and in Permit Condition 2.4.1 of the "Coke Fines Drying, Screening, and Handling from the Stockpile to the Bulk Storage Bin" process. Lastly, it is found in Permit Condition 2.1.1 of the "Coke Fines Screening, Crushing, and Handling from the Bulk Storage Bin to the Furnace Feed Bins" process of the same PTC.

Emissions from the transfer associated with moving coke from belt 828 to the bulk storage bin are vented to the bulk storage bin baghouse. The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate *"must apply to each individual process that emits and changes, stores or handles product."* Therefore, the process has been defined to include only those emissions units that are controlled by the bulk storage bin baghouse.

In a letter dated May 1, 2001, P_4 Production declared that the bulk storage bin baghouse was installed in 1986. In a letter dated June 5, 2001, the permittee certified that the process in which the bulk storage bin baghouse controls was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702. However this really doesn't matter because Section 700.02 of the *Rules* says that no source shall be required to meet an emission limit of less than one pound per hour.

5.7.2.2 Compliance Demonstration

Emissions from the bulk storage bin baghouse should be inherently lower than the emission standard of 1.00 lb/hr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[4] P_4 Production's letter dated May 1, 2001, states the flow rate through the bulk storage bin baghouse is 1,080 standard cubic feet per minute (scfm). Therefore, the estimated actual emission rate from the baghouse is 0.1 lb/hr. However, Permit Condition 8.1, which comes from the PTC, requires annual emissions to be determined by multiplying the allowable hourly emission rate (1 lb/hr) by the hours of operation unless actual emissions data is available.

The permittee is not required to perform a compliance test to determine the actual emissions from the process because the uncontrolled emissions are small (less than 10 tons per year). EPA does not require sources of hazardous air pollutants with uncontrolled emissions less than 10 tons per year to conduct a compliance test. For more information, see the discussion under item 30 in DEQ's response to the facility's comments which is found in the public comment package.

IDAPA 58.01.01.700.02 states, "Notwithstanding the provisions of IDAPA 58.01.01.701 and 702, no source shall be required to meet an emission limit of less than one (1) pound per hour." Therefore, demonstrating compliance with the permit limit of 1 lb/hr also demonstrates compliance with the process weight standard.

5.7.2.3 Monitoring

Once each week, the permittee will monitor and record the pressure drop across the baghouse and the plant compressed air pressure. Visible emission observations for the bulk storage bin baghouse stack will be performed once each week.

[4] Buonicore and Davis, p. 115

The permittee must maintain records of:

(a) The average hourly emissions from the process; and

(b) The hours of operation for each month and for the previous consecutive 12-month period.

5.7.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the PTC, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the PTC did not require the permittee to conduct a source test so a source test has not yet been performed.

5.7.2.5 Recordkeeping

The permittee must maintain records of all required monitoring data and must calculate annual emissions once each month for the previous consecutive 12-month period.

5.7.2.6 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.7.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 8.2)

5.7.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.7.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.7.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 7 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.7.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.7.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.7.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.8 Emissions Point 8 – Six Furnace-Feed Bin Vents

5.8.1 Emissions Unit Description

Emissions from the transfers associated with moving coke fines from the second air conveyor to either fines bin 304, 305, 306, 307, 308, or 309 are vented, respectively, to furnace feed bin vents 304, 305, 306, 307, 308, or 309, each of which has an individual fabric filter and stack. Dust collected in each of the furnace feed bin filters empties into the respective fines bin.

Specifications

Stack Height:

304: 6,102.8feet above sea level
305: 6,105.8 feet above sea level
306: 6,114.8 feet above sea level
307: 6,133.8 feet above sea level
308: 6,152.0 feet above sea level
309: 6,152.0 feet above sea level

Stack Diameters: 4 inches by 10 inches (rectangular)

Flow Rates: 200 standard cubic feet per minute

5.8.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.2.1, 10/19/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 9.1)

5.8.2.1 Applicability

The requirement is found in Permit Condition 2.2.1 of the *Coke Fines Electric Furnace Addition System* PTC issued on October 19, 2000, as part of the "Coke Fines Screening, Crushing, and Handling from the Bulk Storage Bin to the Furnace Feed Bins" process.

In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702. The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The PTC limit of 0.33 lb/hr is the most stringent. IDAPA 58.01.01.700.02 states, *"Notwithstanding the provisions of IDAPA 58.01.01.701 and 702, no source shall be required to meet an emission limit of less than one (1) pound per hour."*

5.8.2.2 Compliance Demonstration

Particulate emissions from each vent stack shall not exceed 0.33 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions from each vent stack shall not exceed 1.0 T/yr, as determined by multiplying the actual emission rate from each stack measured by an EPA Reference Method 5, or an approved alternative, emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

5.8.2.3 Monitoring

Pressure drop and plant compressed air pressure will be monitored once each month. Visible emissions will be monitored once per week. The coke fines bins can be filled up to once per day.

The permittee must maintain records of:

(a) The calculated hourly emissions from the process; and

(b The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.8.2.4 Testing

None required.

5.8.2.5 Recordkeeping

The permittee must maintain records of all required monitoring data.

5.8.2.6 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.8.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 9.2)

5.8.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.8.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.8.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 8 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.8.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.8.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.8.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.8.4 Nonapplicable Requirement – Particulate Matter Limit, Grain-loading - [IDAPA 58.01.01.710, 6/23/00]

IDAPA 58.01.01.710 does not apply to points of emissions with particulate matter emissions that are at all times less than or equal to one pound per hour (See IDAPA 58.01.01.710.02).

5.9 Emissions Point 9 – Scaleroom Baghouse

5.9.1 Emissions Unit Description

Emissions from the transfer points associated with moving material from the 11 scaleroom weigh bins to belt 416 are vented to the scaleroom baghouse.

Specifications

Stack Height:	60.0 feet
Stack Diameter:	4 feet
Flow Rate:	26,000 dry standard cubic feet per minute

5.9.2 Permit Requirement – Particulate Matter Limits - [OP No. 029-00001, Page 17, Permit Condition 2.1.1, 10/23/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 10.1)

5.9.2.1 Applicability

The requirement is found in Permit Condition 2.1.1 of the "Phosphate ore nodules, coke, and quartzite proportioning and handling to the furnace stocking area" process in the *Scaleroom Scrubber Shutdown* operating permit issued October 23, 2000.

The permittee requested a streamlining of the operating permit particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The operating permit limit of 2.00 lb/hr is the most stringent. The last compliance test was conducted at a process weight rate of 185 tons per hour which correlates to an allowable emission limit of 35.7 pounds per hour.

5.9.2.2 Applicable Requirement

Particulate emissions shall not exceed 2.00 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 8.6 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative, emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

5.9.2.3 Compliance Demonstration

The permittee shall calculate the allowable emissions from the process and maintain records demonstrating compliance with the limit.

Operating permit No. 029-0001, Permit Condition 3.1, issued October 23, 2000, requires all control equipment controlling emissions from this process to be operated at all times that material is handled within this process.

P_4 Production has conducted a source test to demonstrate compliance with the emission limit and must now monitor and record operating parameters to demonstrate compliance. The tests yielded an actual emission rate of 0.8 lb/hr at a 184.9 T/hr production rate while the pressure drop across the baghouse was five inches of water.

5.9.2.4 Monitoring

P_4 Production is required to monitor the pressure drop across the baghouse and the plant compressed air pressure once each week to ensure the baghouse is operating correctly. Hourly production rates must also be maintained to ensure P_4 Production does not exceed the allowable hourly production rate.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The calculated annual emissions from the process; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.9.2.5 Testing

Permit Condition 4.2 on page 8 of the *Scaleroom Scrubber Shutdown* operating permit required the permittee to perform a one-time particulate emission test within 60 days of the issuance of the permit. P_4 Production conducted a Method 5 source test on the scaleroom baghouse on April 26, 1990. The test resulted in an actual emission rate of 0.8 lb/hr at a production rate of 184.9 tons per hour.

Permit Condition 3.2 on page seven of the *Scaleroom Scrubber Shutdown* operating permit limits the production rate to 105% of the rate achieved during the tests until the following conditions are met:

- Prior written approval from DEQ is received, and
- An emission test is performed at the requested increased production rate and the test demonstrates compliance with the *Rules for the Control of Air Pollution in Idaho.*

Therefore, the current production limit is 194 tons per hour.

5.9.2.6 Recordkeeping

Recordkeeping requirements consist of the recorded hourly production rate and weekly monitoring results of the pressure drop across the baghouse and the plant compressed air pressure. P_4 Production also must maintain records of the production rate achieved and average pressure drop across the baghouse measured during the most recent performance test.

5.9.2.7 Reporting

Reporting must be conducted in accordance with Permit Condition 28.24.

5.9.3 Permit Requirement – Visible Emissions - [OP No. 029-00001, Permit Condition 4.3.2, 10/23/00; IDAPA 58.01.01.625, 4/5/00] (Permit Condition 10.2)

5.9.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.9.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

The following requirement comes from Operating Permit No. 029-00001, Permit Condition 4.3.2, issued on October 23, 2000.

Maintenance shall be performed on each baghouse that has visible emissions exceeding 5% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

5.9.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 9 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.9.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.9.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.9.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.10 Emissions Point 10 – No. 7 CO Baghouse

5.10.1 Emissions Unit Description

Emissions from the transfer points associated with moving material from belts 713 and 714 and from rotary stock diverter 672 to the furnace No. 7 stock bins are vented to the furnace No. 7 CO baghouse.

Specifications

Stack Height:	148 feet
Stack Diameter:	1.2 feet
Flow Rate:	3,300 standard cubic feet per minute

5.10.2 Permit Requirement – Particulate Matter - [OP No. 029-0001, Permit Condition 2.2.1, 10/23/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 11.1)

5.10.2.1 Applicable Requirement

Particulate emissions shall not exceed 4.13 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 17.0 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative, emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

The permittee requested a streamlining of the operating permit particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The operating permit limit of 4.13 lb/hr is the most stringent. A letter from P_4 Production dated May 1, 2001, claims IDAPA 58.01.01.701 is the applicable standard because the source was installed in 1980. In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702. The application says the maximum process weight rate for source code 539.0 is 76 tons per hour. At this process weight the allowable emissions are 28 pounds per hour.

5.10.2.2 Compliance Demonstration

Emissions from the No. 7 CO baghouse will be inherently lower than the emission standards of 4.13 lb/hr and 17.0 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[5] The application states the flow rate through the No. 7 CO baghouse is 3,300 standard cubic feet per minute. Therefore, the estimated actual emission rate from the baghouse is 0.28 lb/hr and 1.2 T/yr. However, the emission limit in the operating permit requires compliance to be determined by a source test.

The permittee shall determine the actual emissions from the process and maintain records demonstrating compliance with the limit.

Operating Permit No. 029-00001, Permit Condition 3.1, issued October 23, 2000, requires all control equipment controlling emissions from this process to be operated at all times that coke is handled within this process.

5.10.2.3 Monitoring

P_4 Production is required to monitor the pressure drop across the baghouse and the plant compressed air pressure once each week.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The calculated annual emissions from the process; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

[5] Buonicore and Davis, p. 115

These records shall be maintained in accordance with Permit Condition 1.11.

5.10.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the operating permit, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the operating permit did not require the permittee to conduct a source test so a source test has not been performed.

5.10.2.5 Recordkeeping

Recordkeeping requirements consist of recording the weekly monitoring results of pressure drop across the baghouse and the plant compressed air pressure.

5.10.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.10.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 11.2)

5.10.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.10.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

The permit requirement comes from operating permit No. 029-00001, Permit Condition 4.3.2, issued on October 23, 2000.

Maintenance shall be performed on each baghouse that has visible emissions exceeding 5% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

5.10.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 10 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.10.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.10.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.10.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.11 Emissions Point 11 – No. 8 CO Baghouse

5.11.1 Emissions Unit Description

Emissions from the transfer points associated with moving material from belts 12W and 12E to the furnace No. 8 stock bins are vented to the furnace No. 8 CO baghouse.

Specifications

Stack Height:	155 feet
Stack Diameter:	1.5 feet
Flow Rate:	6,600 standard cubic feet per minute

5.11.2 Permit Requirement – Particulate Matter - [OP No. 029-00001, Permit Condition 2.3.1, 10/23/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 12.1)

5.11.2.1 Applicable Requirement

Particulate emissions shall not exceed 5.63 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 23.2 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

The permittee requested a streamlining of the operating permit particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The operating permit limit of 5.63 lb/hr is the most stringent. In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702.

5.11.2.2 Compliance Demonstration

Emissions from the No. 8 CO baghouse will be inherently lower than the emission standard of 5.63 lb/hr and 23.2 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[6] The application states the flow rate through the No. 8 CO baghouse is 6,600 standard cubic feet per minute. Therefore, the estimated actual emission rate from the baghouse is 0.57 lb/hr and 2.5 T/yr. However, the emission limit in the operating permit requires compliance to be determined by a source test.

The permittee shall determine the actual emissions from the process and maintain records demonstrating compliance with the limit.

Operating Permit No. 029-00001, Permit Condition 3.1, issued October 23, 2000, requires all control equipment controlling emissions from this process to be operated at all times that coke is handled within this process.

[6] Buonicore and Davis, p. 115

5.11.2.3 Monitoring

P_4 Production is required to monitor the pressure drop across the baghouse and the plant compressed air pressure once each week.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The calculated annual emissions from the process; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.11.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the operating permit, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the operating permit did not require the permittee to conduct a source test, therefore a source test has not been performed.

5.11.2.5 Recordkeeping

Recordkeeping requirements consist of the weekly monitoring results of pressure drop across the baghouse and the plant compressed air pressure.

5.11.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.11.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 12.2)

5.11.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.11.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

The following permit requirement comes from operating permit No. 029-00001, Permit Condition 4.3.2, issued on October 23, 2000.

Maintenance shall be performed on each baghouse that has visible emissions exceeding 5% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

5.11.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 11 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.11.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.11.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.11.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.12 Emissions Point 12 – No. 9 CO Baghouse

5.12.1 Emissions Unit Description

Emissions from the transfer points associated with moving material from belts 420W and 420E to the furnace No. 9 stock bins are vented to the furnace No. 9 CO baghouse.

Specification

Stack Height:	176 feet
Stack Diameter:	1.5 feet
Flow Rate:	6,600 standard cubic feet per minute

5.12.2 Permit Requirement – Particulate Matter Limits - [OP No. 029-00001, Permit Condition 2.4.1, 10/23/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 13.1)

5.12.2.1 Applicability

Particulate emissions shall not exceed 7.88 lb/hr, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 32.4 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

The permittee requested a streamlining of the operating permit particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The operating permit limit of 7.88 lb/hr is the most stringent. In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702.

5.12.2.2 Compliance Demonstration

Emissions from the No. 9 CO baghouse will be inherently lower than the emission standard of 7.88 lb/hr and 32.4 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[7] The application states the flow rate through the No. 9 CO baghouse is 6,600 standard cubic feet per minute. Therefore, the estimated actual emission rate from the baghouse is 0.57 lb/hr and 2.5 T/yr. However, the emission limit in the operating permit requires compliance to be determined by a source test.

The permittee shall determine the actual emissions from the process and maintain records demonstrating compliance with the limit.

Operating Permit No. 029-00001, Permit Condition 3.1, issued October 23, 2000, requires all equipment controlling emissions from this process be operated at all times that coke is handled within this process.

5.12.2.3 Monitoring

P_4 Production is required to monitor the pressure drop across the baghouse and the plant compressed air pressure once each week.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The calculated annual emissions from the process; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.12.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the operating permit, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the operating permit did not require the permittee to conduct a source test so a source test has not been performed.

5.12.2.5 Recordkeeping

Recordkeeping requirements consist of the weekly monitoring results of pressure drop across the baghouse and the plant compressed air pressure.

5.12.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.12.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 13.2)

5.12.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

---

[7] Buonicore and Davis, p. 115

5.12.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

The following permit requirement comes from operating permit No. 029-00001, Permit Condition 4.3.2, issued on October 23, 2000.

Maintenance shall be performed on each baghouse that has visible emissions exceeding 5% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

5.12.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 12 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.12.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.12.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.12.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.13 Emissions Point 13 – Main (Furnace) Stocking System Baghouse

5.13.1 Emissions Unit Description

Emissions from the transfer points associated with moving material from belt 416 to belts 713, 714, 12W, 12E, 420W, or 420E, in addition to various points along belts 713, 714, 12W, 12E, 420W, and 420E, are vented to the main stocking system baghouse.

Dust from the three CO baghouses is pneumatically conveyed to the furnace stocking system baghouse. Dust from the furnace stocking system baghouse fills a separate dust container near the baghouse. Dust from the dust container and the scaleroom baghouse is stockpiled via the vacuum truck.

Specifications

Stack Height:	80 feet
Stack Diameter:	2.5 feet
Flow Rate:	20,000 standard cubic feet per minute

5.13.2 Permit Requirement – Particulate Matter Limits - [OP No. 029-00001, Permit Condition 2.5.1, 10/23/00; IDAPA 58.01.01.702, 4/5/00] (Permit Condition 14.1)

5.13.2.1 Applicable Requirement

Particulate emissions shall not exceed the emission limit set in IDAPA 58.01.01.702, or 17.63 lb/hr, which ever is more restrictive, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 77.2 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The PTC limit of 17.63 lb/hr is the most stringent. The applications says the maximum process weight rate for source code 537.0 is 76 tons per hour. Therefore, the allowable emission limit according to the process weight equation is 28 pounds per hour.

5.13.2.2 Compliance Demonstration

Emissions from the main stocking system baghouse will be inherently lower than the emission standard of 17.63 lb/hr and 77.2 T/yr so long as the baghouse is operated efficiently. A reasonable emission factor for a well-designed and operated baghouse is 0.01 gr/dscf.[8] The application states the flow rate through main stocking system baghouse is 20,000 standard cubic feet per minute. Therefore, the estimated actual emission rate from the baghouse is 1.74 lb/hr and 7.5 T/yr. However, the emission limit in the operating permit requires compliance to be determined by a source test.

The permittee shall determine the actual emissions from the process and maintain records demonstrating compliance with the limit.

Operating Permit No. 029-00001, Permit Condition 3.1, issued October 23, 2000, requires all control equipment controlling emissions from this process be operated at all times that material is handled within this process.

5.13.2.3 Monitoring

P_4 Production is required to monitor the pressure drop across the baghouse and the plant compressed air pressure once each week.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The calculated annual emissions from the process; and

(c) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

[8] Buonicore and Davis, p. 115

5.13.2.4 Testing

The permittee is required to perform a Method 5 particulate emission test to determine actual emissions from the process. The emission limit in the operating permit, now included in the Tier I operating permit, required compliance with the hourly limit to be determined by a source test. However, the operating permit did not require the permittee to conduct a source test so a source test has not been performed. A source test is required within 270 days of permit issuance. The 270 days was allowed so P_4 has the flexibility to avoid adverse weather conditions.

5.13.2.5 Recordkeeping

The permittee must maintain records of all required monitoring data.

5.13.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.13.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 14.2)

5.13.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.13.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

The following permit requirement comes from operating permit No. 029-00001, Permit Condition 4.3.2, issued on October 23, 2000.

Maintenance shall be performed on each baghouse that has visible emissions exceeding 5% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

5.13.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 13 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.13.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.13.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.13.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.14 Emissions Point 14 – Nodule Reclaim Baghouse

5.14.1 Emissions Unit Description

The nodule reclaim baghouse controls emissions from nodule handling. The specific emissions points are belt 300 to raw nodule storage and raw nodule dump to reclaim hopper.

Specifications

Stack Height:	60 feet
Stack Diameter:	5.75 feet
Stack Gas Flow Rate:	95,000 actual cubic feet per minute
Stack Temperature:	100 (degrees F)
Pressure Drop:	3.5 inches of water

5.14.2 Permit Requirement – Process Weight Limitations - [IDAPA 58.01.01.702, 4/5/00] (Permit Condition 15.1)

5.14.2.1 Applicability

Nodule-handling is a process as defined in IDAPA 58.01.01.06.79. The nodule reclaim system was modified in 1993 when the clamshell used to move nodules was replaced by a pan conveyor. In a letter dated June 5, 2001, the permittee certified that the process was installed prior to October 1, 1979. Therefore, the applicable standard is IDAPA 58.01.01.702.

5.14.2.2 Compliance Demonstration Method

The permittee shall calculate the allowable emissions from the process and maintain records demonstrating compliance with the limit.

5.14.2.3 Monitoring

The permittee will monitor the weight of material processed in tons per month.

5.14.2.4 Testing

None required.

5.14.2.5 Recordkeeping

The permittee must maintain records of:

(a) The maximum hourly throughput of the process;

(b) The calculated process weight rate limitation using the formula in Permit Condition 15.1;

(c) The calculated hourly emissions from the process; and

(d) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.14.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.14.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 15.2)

5.14.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.14.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.14.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 14 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.14.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.14.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.14.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.15 Emissions Point 15 – Separator Discharge Material (SDM) Baghouse

5.15.1 Emissions Unit Description

The SDM baghouse controls emissions from the SDM blow to the hopper.

Specifications

Baghouse Vent Height:	60 feet
Baghouse Vent Size:	20" x 9"
Baghouse Gas Flow Rate:	2,000 acfm

5.15.2 Permit Requirement – Process Weight Limitations - [IDAPA 58.01.01.701, 4/5/00] (Permit Condition 15.1)

5.15.2.1 Applicability

The transfer of material from the SDM blow to the hopper is a process as defined in IDAPA 58.01.01.006.79. The SDM baghouse does not qualify as an insignificant emissions unit under IDAPA 58.01.01.317.01.b.i.(30) because the uncontrolled emissions from the process may exceed 10% of the significant levels listed in IDAPA 58.01.01.006.

5.15.2.2 Compliance Demonstration Method

The permittee shall calculate the allowable emissions from the process and maintain records demonstrating compliance with the limit.

5.15.2.3 Monitoring

The permittee will monitor the weight of material processed in tons per month and visually inspect the bags for damage once every six months.

5.15.2.4 Testing

None required.

5.15.2.5 Recordkeeping

The permittee must maintain records of:

(a) The maximum hourly throughput of the process;

(b) The calculated process weight rate limitation using the formula in Permit Condition 15.1;

(c) The calculated hourly emissions from the process on a monthly average; and

(d) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.15.2.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.15.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 15.2)

5.15.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.15.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.15.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 15 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.15.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.15.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.15.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.

5.16 Emissions Point 16 – Nodule-Crushing and Screening Scrubber

5.16.1 Emissions Unit Description

The following requirements apply generally to emissions from the transfers associated with moving quartzite from the Q2 belt to the quartzite bins or scaleroom quartzite bin, and emissions from the transfer points associated with nodule conveying, sizing, crushing, and screening.

Specifications

Stack Height:	81.0 feet
Stack Diameter:	11.5 feet
Flow Rate:	159,000 actual cubic feet per minute

5.16.2 Permit Requirement – Particulate Matter Limits - [PTC No. 0420-0001, Permit Condition 2.4.1, 10/19/00; IDAPA 58.01.01.702]

5.16.2.1 Applicability

The requirement is found in Permit Condition 2.4.1 of the *New Coke Quartzite Dryer* PTC issued on October 19, 2000, in the "Quartzite Drying and Associated Handling" process.

Emissions from the transfers associated with moving quartzite from belt 123 to the quartzite fines bin or scaleroom quartzite bin are vented to the nodule crushing and screening scrubber. The Department of Environmental Quality's Air Division guidance dated November 6, 2000, states that process weight rate (PWR) *"must apply to each individual process that emits and changes, stores, or handles product."* Therefore, the process has been redefined to include only those emissions units that are controlled by baghouse 836.

5.16.2.2 Applicable Requirement

Particulate emissions shall not exceed the emission limit set in IDAPA 58.01.01.702, or 36.86 lb/hr, whichever is more restrictive, as determined by an EPA Reference Method 5, or an approved alternative, emission test. Annual particulate emissions shall not exceed 158.5 T/yr, as determined by multiplying the actual emission rate measured by an EPA Reference Method 5, or an approved alternative, emission test or by multiplying the allowable hourly emission rate (if actual is not available) by the actual hours of operation per year.

The permittee requested a streamlining of the PTC particulate matter limit and the process weight limit (IDAPA 58.01.01.702). Streamlining means that only the most stringent limit shall apply. The process weight limit of 32.5 lb/hr is the most stringent unless the process weight goes above 416,600 lb/hr.

5.16.2.3 Compliance Demonstration

The permittee shall install, operate, calibrate, and maintain instrumentation to accurately measure and indicate the pressure drop across each baghouse and scrubber controlling emissions from this process, and instrumentation to accurately measure and indicate the water flow rate to each scrubber controlling emissions from his process.

Maintenance shall be performed on each scrubber that has visible emissions exceeding 15% opacity. A measured opacity of 20% or less will not constitute a violation of this permit.

The scrubber was last tested October 12, 2000, at a production rate of 130.6 T/hr. The process weight limit is then 32.5 lb/hr (1.12 x 261,200^0.27). The emission rate from the test was 8.34 lb/hr, which demonstrated compliance with the emission limit. Other operating parameters at the time of the test were:

Flow Rate:	109,000 dry standard cubic feet per minute
Stack Pressure:	23.99 Inches of mercury (Hg) absolute
Scrubbing Liquid flow rate:	792-993 gallons per minute

The permittee shall calculate the allowable emissions from the process if the process weight during source tests falls below 416,600 lb/hr and maintain records demonstrating compliance with the limit.

5.16.2.4 Monitoring

The pressure drop and scrubber solution flow rate will be monitored once each week. The permittee requested this monitoring schedule in their comments on the draft permit.

The permittee must maintain records of:

(a) The hourly throughput of the process;

(b) The maximum calculated process weight rate limitation using the formula in Permit Condition 17.1 if the process weight attained during the most recent Department-approved compliance test is below 416,600 lbs/hour,

(c) The calculated annual emissions from the process; and

(d) The hours of operation for each month and for the previous consecutive 12-month period.

These records shall be maintained in accordance with Permit Condition 1.11.

5.16.2.5 Testing

In the application, P_4 Production proposed testing the nodule crushing and screening scrubber stack every three years beginning in 2003. The scrubber was tested in 2000. However, P_4 Production requested in a letter dated May 1, 2001, to include the standard hierarchical testing-schedule language that is based on a percentage of the allowable limit.

5.16.2.6 Recordkeeping

The pressure drop and scrubber solution flow rate will be recorded.

5.16.2.7 Reporting

The permittee must submit certified semiannual reports of all required monitoring listed above. Deviations are to be noted by the permittee and the corrective action(s) taken must be included in the semiannual report. A certification of the compliance status must be submitted annually.

5.16.3 Permit Requirement – Visible Emissions - [IDAPA 58.01.01.625, 4/5/00] (Permit Condition 16.2)

5.16.3.1 Applicability

IDAPA 58.01.01.625 applies to any point of emission.

5.16.3.2 Compliance Demonstration Method

P_4 Production shall conduct a routine inspection for visible emissions once per week.

5.16.3.3 Monitoring

In accordance with Permit Condition 1.8, the permittee shall conduct a weekly visible emissions inspection of Emissions Unit 16 during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions.

5.16.3.4 Testing

If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.16.3.5 Recordkeeping

The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

5.16.3.6 Reporting

The permittee shall submit reports of all required monitoring at least every six months in accordance with IDAPA 58.01.01.322.08.c.